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| 10/573,884   | 03/06/2007  | Matthias Riedel      | 286760US8XPCT       | 9926             |
| 22850  | 7590        | 02/20/2009           | EXAMINER            |                  |
| OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.<br>1940 DUKE STREET<br>ALEXANDRIA, VA 22314 |             |                      | MAGLO, EMMANUEL K   |                  |
|  |             | ART UNIT             | PAPER NUMBER        |                  |
|  |             | 2419                 |                     |                  |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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|                              |                                      |                                      |
|------------------------------|--------------------------------------|--------------------------------------|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/573,884 | <b>Applicant(s)</b><br>RIEDEL ET AL. |
|                              | <b>Examiner</b><br>EMMANUEL MAGLO    | <b>Art Unit</b><br>2419              |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 29 March 2006.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 21-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 21-40 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 29 March 2006 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)           | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date: _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/1648) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 21-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 21 recites in lines 7-8, the limitation "*the reserved connection*". There is insufficient antecedent basis for this limitation in the claim.

Claim 24 recites in line 4, the limitation "*the associated flow*". There is insufficient antecedent basis for this limitation in the claim. Furthermore it is not clear what flow is being referred to as "*the associated flow*", i.e. the flow is associated with what?

In claim 27, it is not clear what information element is being referred to in "*the resource information element ...*" no information elements are defined in parent claim 26.

Similarly in claim 28, it is not clear what information element is being referred to in "*the resource information elements ...*" no information elements are defined in parent claim 26.

In claim 29, it is not clear what information element is being referred to in "*each resource information element ...*" no information elements are defined in parent claim 21.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 21-29, 32-40 are rejected under 35 U.S.C. 102(e) as being anticipated by Shaheen et al. (US 7,400,582 B2), hereinafter referred to as Shaheen.

Regarding claim 21, Shaheen discloses a *quality-of-service reservation method*, (see abstract and fig. 3 for resource reservation setup protocol method), for managing network resources, (col. 3 lines12-14), and/or service parameters needed for symmetric real-time multimedia applications, and/or data services running on a mobile node and a correspondent node by signaling resource control information along specific routing paths between the nodes, the method comprising:

*embedding resource control information to be transmitted between the mobile node and the correspondent node in a message*, (col.3 lines 3-5: "the bi-directional RSVP PATH message 38 contains resource allocation information for both the communications transmitted from user A to user B and from user B to user A), which is sent via the routing path of the reserved connection for the nodes, (col. 3, lines 12-26); and

*disseminating resource control information between the mobile node and the correspondent node by using the same routing path through the network in both directions*, (col. 3 lines 48-56: the path message is scattered between user A and user B, for the communication is set in both directions using the same routing path between user A and user B through the various routers (Router 1-Router N) of the networks).

Regarding claim 22, Shaheen discloses the *mobile node*, (fig. 3: note the wireless user equipment represents the mobile node mobile originating the resource request), initiates a *resource reservation request message indicating demand for a predefined amount of network resources simultaneously for both directions*, (col. 4 lines 1-5: user A (the

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originating user) sends a bi-directional RSVP PATH message 38. The bi-directional RSVP PATH message 38 contains resource allocation information for both the communications transmitted from user A to user B and from user B to user A).

Regarding claim 23, Shaheen discloses *the correspondent node initiates a resource reservation request message indicating demand for a predefined amount of network resources simultaneously for both directions*. In FIG. 7, all of the objects 58.sub.R1-58.sub.RN are for the reverse direction, "(REVERSE)". A value "1111" for the direction indicator 543 indicates both directions are used (the originating user will receive and send).

Regarding claim 24, Shaheen discloses *the initiator of the resource reservation request message generates a unique reservation identifier associating a bidirectional connection to achieve a specific forwarding behavior which remains unchanged during the lifetime of the associated flow*, (fig. 5 and col.4 lines 8-10: four bits of the direction indicator 54.sub.1 are assigned the value "0000" for the forward direction: this unique identifier indicates that the originating user only sends information).

Regarding claim 25, Shaheen discloses *simultaneously allocating and monitoring at the same time for both directions of the resource reservation request message, wherein resource control information for both directions of the reserved routing path is embedded in a same IP datagram*. (note by way of fig. 8 use in bi-directional, reverse direction and forward direction reservation setup protocol messaging, having an IP header indicator 56 (showing that the resource reservation request message is embedded in the same IP datagram)).

Regarding claim 26, Shaheen discloses *a flow attribute for an individual flow or flow aggregate, associated with quantifiable and non-quantifiable flow context information either for one or both directions of the flow,* (fig. 10: is an illustration of a "<SENDER.sub.13 TSPEC>". Along the top of the figure are numbers indicating the bit positions from bit position 0 to 31. As shown in FIG. 10 for a bi-directional RSVP PATH message, both "(Forward)" and "(Reverse)" information is included: both quantifiable and non-quantifiable flow context information are shown in the fig).

Regarding claim 27, Shaheen discloses *the resource information elements describe resource control information for upstream direction from the initiator towards the receiver, (with reference to fig.3 from A to B), or downstream direction from the receiver towards the initiator, (with reference to fig.3 from B to A), of a resource reservation request message or for both directions together, (with reference to fig.3 A to B and B to A), upstream and downstream direction are uniquely identified by the mobile node and the correspondent node due to their role in the reservation procedure either as initiator or receiver of a resource reservation request message,* (user A (the originating user) sends a bi-directional RSVP PATH message 38. The bi-directional RSVP PATH message 38 contains resource allocation information for both the communications transmitted from user A to user B and from user B to user A, col. 3 lines 1-5).

Regarding claim 28, Shaheen discloses *the resource information elements are organized in a modular fashion for each flow, wherein the node that originates the resource control information determines the number of resource information elements to be placed into the IP datagram header,* (col. 3 lines 58-62: note that user B now

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originates the resource control information. that is user B sends a reverse direction RSVP RESV message 48 to allocate the resources for its transmission: this determines the number of resource information elements needed)

Regarding claim 29, Shaheen discloses *each resource information element includes a field for the monitored attribute value and attribute requirement specification fields specifying resource-attribute-specific flow requirements, which are described by an upper threshold defining the maximum value and/or a lower threshold defining the minimum value for the respective resource attribute.* (Two illustrations of the "<ADSPEC>" field are shown in FIGS. 14 and 15 showing *specifying resource-attribute-specific flow requirements*. Note the maximum value field and lower threshold defining the minimum value for the respective resource attribute).

Regarding claim 32, Shaheen discloses *resource control information for different bidirectional flows is piggy-packed in a same IP datagram, wherein for each flow a reservation identifier information element referring to additional flow and resource information elements in the header of the IP datagram is attached to the IP datagram header and a grouping of reservation identifiers and other resource information elements determines membership of the information to a specific flow,* (fig. 8 the resource control are forward and reverse. each identify a flow in the datagram referenced by IP header 56)

Regarding claim 33, Shaheen discloses *either the mobile node or the correspondent node determines on an IP layer whether bidirectional or unidirectional resource control information can be inserted into an IP datagram that is ready to be transmitted to the*

*networking interface or whether a separate IP datagram needs to be generated for that purpose, (fig.5 shows the general format of the IP datagram (IP packet). Following, figs. 6-7 show the IP datagram that is ready to be transmitted)*

*Regarding claim 34*, Shaheen discloses *resource control information is placed in any IP datagram which follows the reserved routing path between the initiator and the receiver of a resource reservation request message, (fig. 5. see direction indicator 54)*

*Regarding claim 35*, Shaheen discloses *recognizing conditions of insufficient resources along the routing path for upstream and downstream directions at the correspondent node by comparing monitored attribute values with the attribute requirement specifications in the resource information elements of an arriving IP datagram, (conditions for insufficient resources are recognized by way of the metrics or attribute values of figs 14 and 15 are illustrations of FLOWSPECS of the bi-directional reservation setup protocol reservation message of fig. 13, fig 14 is a FLOWSPEC for Guaranteed service and FIG. 15 is a FLOWSPEC for Guaranteed Service Extension Format).*

*Regarding claim 36*, Shaheen discloses *setting monitored resource attribute values of specific resource information elements specified in an IP datagram header to zero in case one or more forwarding nodes do not support the resource attributes. (col. 4 lines 32-36: fig. 10 is an illustration of a "<SENDER.sub.13 TSPEC>". Along the top of the figure are numbers indicating the bit positions from bit position 0 to 31. As shown in FIG. 10 for a bi-directional RSVP PATH message, both "(Forward)" and "(Reverse)" information is included. Shown, in the fig, an attribute value is set to Zero).*

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Regarding claim 37 Shaheen discloses setting those attribute values carried in an IP datagram header to zero that enable reservation end points to easily interpret the situation of routing asymmetry if upstream and downstream paths for a bidirectional reservation do not follow identical routes at a specific routing node along the reserved routing path. fig. 4,The reverse direction RSVP PATH message 46 contains resource allocation information for user B's transmissions to user A.

Regarding claim 38, Shaheen discloses *interpreting resource reservation request messages with a value zero, (fig. 10), for one or more attribute requirement specifications as explicit release messages by forwarding nodes along the reserved routing path and by the initiator or receiver of the resource reservation request messages; and associating values of the attribute requirement specifications with removal of flow-specific reservation state information in the forwarding nodes along the reserved routing path,*(col. 4 lines 32-36: fig. 10 is an illustration of a "<SENDER.sub.13 TSPEC>". Along the top of the figure are numbers indicating the bit positions from bit position 0 to 31. As shown in FIG. 10 for a bi-directional RSVP PATH message, both "(Forward)" and "(Reverse)" information is included).

Regarding claim 39, Shaheen discloses *interpreting resource reservation request messages with a value unequal to zero for one or more attribute requirement, (fig. 10), specifications as explicit setup messages by forwarding nodes along the reserved routing path and by the receiver of the resource reservation request messages; and associating values of these attribute requirement specifications with installation of flow-specific reservation state information in the forwarding nodes along the reserved routing*

*path*, (col. 4 lines 32-36: fig. 10 is an illustration of a "<SENDER.sub.13 TSPEC>".

Along the top of the figure are numbers indicating the bit positions from bit position 0 to 31. As shown in FIG. 10 for a bi-directional RSVP PATH message, both "(Forward)" and "(Reverse)" information is included).

Regarding claim 40, Shaheen discloses *piggy-packing a flow information element specifying a type of reservation as either bidirectional, (fig. 8) or unidirectional in an IP datagram header, (IP header 56) of a reservation setup message; and interpreting the flow information element at forwarding nodes along the reserved routing path to ensure correct installation of reservation state information*,(col. 3 lines 12-30, in addition a preferred bi-directional RSVP RESV message 40 is described in more detail in conjunction with FIGS. 8, 13, 14 and 15).

#### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaheen in view of Kalmanek, Jr. et al. (6,574,335 B1), hereinafter referred to as Kalmanek.

Regarding claim 30, Shaheen discloses *simultaneously monitoring information about available resources for both directions of the reservation along the reserved routing path between the mobile node and the correspondent node; for every node along the reserved routing path, determining actual resource attribute values for upstream and downstream directions;* (note by way of fig. 8 use in bi-directional, reverse direction and forward direction reservation setup protocol messaging, having an IP header indicator 56 (showing that the resource reservation request message is embedded in the same IP datagram), *and if at any node along the reserved routing path a monitored resource attribute either for the upstream or downstream direction or for both directions, (with reference to fig.3 from A to B or from B to A or from both A to B and B to A), has a value which is less than the correspondent monitored attribute value that is carried in an IP datagram header, assigning the new value to the resource information element of the IP datagram header, which enables the receiver of the resource control information to determine current resource values for both directions,* (the RSVP PATH message 44 is updated and passed to the next router, col. for the purpose of maintaining the resource allocations in accordance with the IP header 56, fig. 8. Upon transferring the bi-directional Refresh PATH messages 44, the networks maintain the resource allocations for both directions).

Shaheen discloses the claimed invention except explicitly that the system determines actual resource attribute values for upstream and downstream directions *for every node along the reserved routing path.*

Kalmanek, in the same field of endeavor discloses resources reservation for a call where the network resources are reserved based on a reservation request, cols. 30 and 31 lines 55-67 and 1-16: the network resources in the communication (network 100 of fig. 1 including every an each node, for example routers, bridges and gateways) are reserved before the call party is connected to the calling party. See fig. 2 illustrative of the reservation of network resources. Col. 9 lines 53-63.

It would have been obvious to a person of ordinary skill at the time the invention made to implement Shaheen with the teachings of Kalmanek so that once the called party indicates acceptance for the call, the network resources are not wastefully configured before they are actually needed.

Regarding claim 31, Shaheen discloses *sending a resource reservation request message describing a set of attribute requirement specifications and controlling the resource allocation procedure either for one or both directions of the resource reservation by either the mobile node or the correspondent node; and based on such a resource reservation request message, determining resource attribute values that should be allocated for the upstream direction, the downstream direction, or both directions at the same time by every forwarding node along the reserved routing path* (fig. 13 shows the illustration of resource reservation message: col. 4 lines 42-52).

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Shaheen discloses the claimed invention, (reservation in *upstream direction, downstream direction, or both directions*), except explicitly that the system determines for every node along the reserved routing path.

Kalmanek, in the same field of endeavor discloses resources reservation for a call where the network resources are reserved based on a reservation request, cols. 30 and 31 lines 55-67 and 1-16: the network resources in the communication (network 100 of fig. 1 including every an each node, for example routers, bridges and gateways) are reserved before the call party is connected to the calling party. See fig. 2 illustrative of the reservation of network resources. Col. 9 lines 53-63.

It would have been obvious to a person of ordinary skill at the time the invention made to implement Shaheen with the teachings of Kalmanek so that once the called party indicates acceptance for the call, the network resources are not wastefully configured before they are actually needed.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EMMANUEL MAGLO whose telephone number is (571)270-1854. The examiner can normally be reached on Monday - Thursday 7:00 - 4:30 and every other Friday 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571)272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Emmanuel Maglo  
Patent Examiner  
February 18, 2009

/Hassan Kizou/  
Supervisory Patent Examiner, Art Unit 2419